

FESENKOV, Acad. V.G.

Stars

Formation of stars as a process observable in nature. Vest. AN SSSR 22, no. 6, 1952.

9. Monthly List of Russian Accessions, Library of Congress, NOVEMBER 1952, ~~1953~~, Unclassified.

FESENKOV, V. G.

USSR/Astronomy - Atmosphere

Mar/Apr 52

"Letters to the Editors: Concerning the Thermal Dissipation of the Atmosphere," I.S. Shklovskiy (submitted 27 Nov 51) and V.G. Fesenkov (submitted 21 Jan 52)

"Astron Zhur" Vol XXIX, No 2, pp 225-229

Both authors amplify their statements concerning the chem compn of the Earth's and Sun's atm, made in "Astron Zhur" No 4, 1951. The original articles were on the same subject but certain statements seemed to conflict in the authors' opinion.

216871

USSR/Astronomy - Solar Eclipse

May/Jun 52

"Observations of the Total Solar Eclipse on  
5 February 1952," V. G. Fesenkov, N. N. Pariyskiy

"Astron Zhur" Vol XXIX, No 3, pp 369-373

A year before the eclipse a committee was chosen under guidance of V. G. Fesenkov to organize for future observations. Adequate sites were chosen in Turkmenia, Uzbek and Kazakhstan; meteorological data were studied. Principal instruments consisted of slit-spectrograph with Schmidt camera, and double

217156

camera "Industar 17" with filters for infrared and ultraviolet. An airplane lifted the scientific staff for observations over the clouds. Good corona spectra were obtained by Pariyskiy.

217156

FESSEKOV, V. G.

USSR/Astronomy - Nebulae

Jul/Aug 52

"The Structure of Gas-Dust Nebulae and Their Connection With Stars," V. G. Fesenkov, D. A. Rozhkovskiy, Astrophys Inst, Acad Sci Kazakh SSR

"Astron Zhur" Vol 29, No 4, pp 381-396

A systematic survey of gas-dust nebulae was performed by D. A. Rozhkovskiy in the Astrophys Obs of the Acad Sci Kazakh SSR in the vicinity of Alma-Ata using a meniscus reflector with 670-mm mirror. Tentative results of work showed that globules are

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not strewn at random in space, but are intimately bound to nebulae and constitute a kind of absorbing material. Attempts are made to explain aureoles around stars and other peculiarities. Received 20 May 52.

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FESENKOV, V. G.

FESENKOV, V. G.

USSR/Astronomy - Nebulae

Jul/Aug 52

"Formation of Stars From Filaments of Gas-Dust Nebulae" V. G. Fesenkov, D. A. Rozhkovskiy, Astrophys Inst, Acad Sci Kazakh SSR

"Astron Zhur" Vol 29, No 4, pp 397-405

Analyzes photographs of a group of nebulosities, in particular NGC 6960 and 6992 in Cygnus, especially the filaments which he considers to be the origin of forming stars. States that these filaments originate in turbulent processes within the

226741

medium and have a moment of rotation which they impart to the stars forming. As a result, the article states, stellar chains are formed, still reflecting the initial shape of filaments. Received 31 May 52.

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FESENKOV, V.G.; ROZHKOVSKIY, D.A.

The origin of the stars. Dokl. Akad. Nauk SSSR 84, No.5, 917-18 '52.  
(PA 56 no.668:5270 '53) (MLRA 5:7)

FESENKOV, V. G.

PHASE I

TREASURE ISLAND BIBLIOGRAPHICAL REPORT

AID 384 - I

BOOK

Author: FESENKOV, V. G., Academician

Call No.: QB981.F4

Full Title: ORIGIN AND DEVELOPMENT OF CELESTIAL BODIES FROM  
CONTEMPORARY DATA

Transliterated Title: Proiskhozhdeniye i razvitiye nebesnykh tel  
po sovremennym dannym

Publishing Data

Originating Agency: Academy of Sciences of the U.S.S.R.

Publishing House: Publishing House of the Academy of Sciences, U.S.S.R.

Date: 1953

No. pp.: 64

No. of copies: 25,000

Editorial Staff

Editor: None

Editor-in-Chief: None

Tech. Ed.: None

Appraiser: None

Text Data

Coverage: The book is a popular treatise in cosmogony. Some of the information appears to be of interest: 1) the results of observations made with the meniscous telescope (photoprint of the telescope on p. 6 with not other details given) of D. D. Maksutov, constructed by B. K. Ioannisiani and installed in 1950 at an 1500 m. altitude in the Alma-Ata Mountain astro-physical observatory, which is claimed to detect stars with a luminosity 1 million times smaller



Proiskhozhdeniye i razvitiye nebesnykh tel  
po sovremennym dannym

AID 384 - I

than those visible to the naked eye (p. 25). Pictures were taken of nebulae, in the red  $H_\alpha$  line and with a yellow filter. 2) Academician G. A. Shayn and V. F. Gaze, of the Crimean astro-physical observatory, using special very sensitive photoplates with a red filter, isolated the emission of the red hydrogen line  $H_\alpha$ , and this made possible for G. A. Shayn to discover many new gas and dust nebulae (see "Izvestiya Krymskoy Astrofizicheskoy Observatorii"), and also to establish some new structural properties of known galaxies (pp. 24-25). 20 photoplates, graphs and diagrams are given in the book, some of them deserve attention.

The book is well written and describes the gaseous and dust theory (without giving credit to von Weizsacker, G. P. Kuiper, D. ter Haar) of the origin and development of the Universe, disregarding the new nuclear reaction theory. No references are made to foreign scientists.

TABLE OF CONTENTS

Introduction  
Our Stellar System - the Galaxy  
Nature of Stars  
Origin of Stars

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3-4  
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13-22  
23-38



Proiskhozhdeniye i razvitiye nebesnykh tel  
po sovremennym dannym

AID 384 - I

Development of Gaseous and Dust Nebulae  
Origin of the Solar System

PAGES

39-47

48-63

Purpose: For popular information

Facilities: None

No. of Russian and Slavic References: Only names in the text, all  
Russian.

Available: Library of Congress.

3/3

FESENKOV, Vasilii Grigor'yevich, 1889- ; ROZHKOVSKIY, D.A.

[Atlas of gas and dust nebulae] Atlas gazovo-pylevykh tumannostei.  
Moskva, 1953. (MIRA 7:12)  
(Nebulae) (Astronomical photography)

FESENKOV, V. G.

USSR/Astronomy - Stars, Origin

Jan/Feb 53

"Some Data on the Nature of Stars Originating from  
Gaseous Dust Nebulae," V.G. Fesenkov and D. A.  
Rozhkovskiy, Inst of Astrophys, Acad Sci Kazakhstan  
SSR

"Astron Zhur" Vol 30, No 1, pp 3-14

Authors discovered in 1952 stellar links between  
filament nebulae NGC 6960 and 52 Cygni using Mak-  
sutov telescope at the mountain observatory of the  
Inst of Astrophys. of Kazakhstan. Photographic  
plates used were American or German. Results ob-  
tained by photography are described. Received  
10 Nov 52.

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FESENKOV, V. G. .

"Conference Held on Mt. Alma-Ata on the Problem of Possibility of Life on Other Planets, in Connection with Works of the Section of Astrobotany, Kazakh SSR, Guided by the Presidium of the Academy of Sciences, Kazakh SSR, 25-27 September 1952," by V. G. Fesenko, Astr Zhur, Vol 30, No 2, pp 244, Mar/Apr 53.

Reports on topics were made by G. A. Tikhov, N. I. Kucherov, A. P. Kutyreva, O. V. Troitskaya, V. G. Fesenko, L. B. Golosnitskiy. Opinions differed.

251T12

FESSEKOV, V. G.

USSR/Astronomy - Solar Radiation, Breaking Effect

Nov/Dec 53

"Breaking Effect of Solar Radiation on Non-Spherical Bodies," V. V. Eadzievskiy  
and Y. P. Razbitnaya, Yaroslavl State pedagogical Inst in Ushinskiy

Astron Zhur, Vol 30, No 6, pp 616-618

Attempts to prove that formula obtained by H. Robertson (M. N. 97, No 6 (1937)  
and V. G. Fessenkov (ibid 23, 6 (1946) equating the time after which a black  
spherical body will fall on the sun, due to the breaking effect of solar rad-  
iation, may also be applied to nonspherical bodies. Rec 2 Mar 53

KRINOV, Ye.L.; FESENKOV, V.G., akademik.

Certain regularities in the falling of stone meteorites. Dokl. AN SSSR  
90 no.6:979-982 Je '53. (MLRA 6:6)

1. Akademiya nauk SSSR (for Fesenkov).

(Meteorites)

**FEDOROV, Ye.P.; FESENKOV, V.G., akademik.**

Slow apolar modifications of latitudes. Dokl.AN SSSR 91 no.4:759-762  
Ag '53. (MLRA 6:8)

1. Akademiya nauk SSSR (for Fesenkov). 2. Poltavskaya observatoriya  
Akademii nauk Ukrainskoy SSR (for Fedorov).  
(Latitude)



IDLIS, G.M.; FESENKOV, V.G., akademik.

Criteria of gravitational resistance and distribution of spheroidal clusters  
in galaxies and stars in spheroidal clusters. Dok.AN SSSR 91 no.6:1305-  
1308 Ag '53. (MLR 6:8)

1. Akademiya nauk SSSR (for Fesenkov). 2. Astrofizicheskiy institut Akademii  
Nauk Kazakhskoy SSR. (Milky way)

KRINOV, Ye.L.; FESENKOV, V.G., akademik.

Surface structure classification of the melting crusts of meteorites. Dokl.  
AN SSSR 92 no.3:503-505 S '53. (MLRA 6:9)

1. Akademiya nauk SSSR (for Fesenkov).

(Meteorites)

FESENKOV, V.G.

The Committee on Stalin Prizes (of the Council of Ministers USSR) in the fields of science and inventions announces that the following scientific works, popular scientific books, and textbooks have been submitted for competition for Stalin Prizes for the years 1952 and 1953. (Sovetskaya Kultura, Moscow, No. 22-40, 20 Feb - 3 Apr 1954)

Name

Title of Work

Nominated by

Fesencov, V.G.  
Rozhkovskiy, D.A.

Research on the processes of  
the origin and development of  
stars (series of articles)

Academy of Sciences Kazakh SSR

NO: W-30654, 7 July 1954

U S S R

6.5-8

551.510.536 523.59

Hope, E. R. (trans.). The earth's exterior atmosphere and the counter-glow. The counter-glow as related to modern geophysical theories. With seven recent Russian papers collected and translated by E. R. Hope. 2nd ed. Ottawa, Defence Research Board, Defence Scientific Information Service, July 1954. xxvii + 511 p. illus., refs. Canada. Defence Research Board, T. 65 R, July 1954. Contents: Hope, Earl R., The counter-glow as related to modern geophysical theories. Astapovich, I. S., Problem of the counter glow. Fesenkov, V. G., Report of address. Fesenkov, V. G., On the gaseous tail of the earth. Divari, N. B., Photometric observations of the counter-glow. Fesenkov, V. G., Gaseous tail of the earth [different article]. Karimov, M. G., The nature of the counter-glow. Divari, N. B., The pressure of solar radiation on the atoms of certain gases. DWR. First edition, July 1952, under title: Earth's exterior atmosphere and the counter-glow; recent Russian papers collected and translated. Contained first five of above cited Russian papers. 39 p. DLC—The first edition (1952) contained the complete translations of the 1st 5 papers cited above; accompanied by an 8 page translator's commentary (with schematic diagrams) discussing and summarizing the theory and observational evidence as presented in these papers. Fesenkov, the long time czar of Soviet astrophysics, at first refused to admit the possibility of a gaseous "tail"

(OVER)

HOPE E. R.

to the earth's atmosphere, but later (1950) recognized the phenomenon which was discovered by Astrafovich before 1944 (and reported in Priroda early in 1950) on the basis of observations of the counter glow made under the extremely good observing conditions of Turkmenistan in Central Asia in 1942-44, and confirmed by photometric observations made in 1946-49 by several observers. The astronomical, geometrical and spectrophotometric as well as theoretical evidence is discussed thoroughly in these articles and is amply illustrated. The second (1954) edition contains translations of the two added papers (Kazimov and Inyart) on the nature of the Counter glow and the Pressure of Solar Radiation on Atomic Gas, respectively. The discussion is amplified to 26 pages, involving a discussion of the root of the tail, the divergence of the tail, the Bennett-Hulbert theory and the Radzievski (1953) theory. Corrections in translations, critical notes on the various theories, and a good bibliography (16 refs.) are included in the foreword (the originals of several of these articles are abstracted separately).  
Subject Headings: 1. Glazeous tail of earth's atmosphere 2. Exosphere 3. Counter glow.—  
M.R.

FESENKOV, V.

"Evolution and origin of the stars in the contemporary Galax. Tr. from the Russian".

(p.55) PRIRODA

(Bulgaraska Akademiia Na Naukite) Sofiya Vol 3 No 1 Jan/Feb 1954

SO: East European Accessions List Vol 2 No 6 Aug 1954

PESENKOV, V. G.

USSR/Scientific Organization - Meteorites

Card 1/1 : Pub. 124 - 24/38

Authors : Pesenkov, V. G., Academician

Title : Development of the science of meteorites in the USSR

Periodical : Vest. AN SSSR 8, 92-95, Aug 1954

Abstract : Minutes of the All-Union Meteorite Conference held on May 14-16, 1954 at the Academy of Sciences USSR. Various results of studying the chemical and mineralogical composition, and structural and physical properties of meteorites were reviewed.

Institution : .....

Submitted : .....



~~FESENKOV~~ V.G.; TULENKOVA, L.N.

Motion of the Sikhote-Alin' meteorite through the solar system.  
Meteoritika no.11:138-152 '54. (MLRA 8:3)  
(Meteorites)

FESENKOV, V.G.

Some characteristics of the distribution of dust in interstellar  
space. Meteoritika no.11:192-203 '54. (MIRA 8:3)  
(Nebulae)

FESENKOV, V.G.

TIKHOV, G.A.

Concerning V.G.Fesenkov's article "Vegetation on Mars." Vest.  
AN Kazakh.SSR 11 no.5:84-85 My '54. (MLRA 7:7)

1. Chlen-korrespondent Akademii nauk SSSR.  
(Mars (Planet)) (Fesenkov, Vasilii Grigor'evich, 1889- )

"Zvezdnye miry" (Star worlds), Tekhnika-Molodezhi, Vol.  
22, No. 3, March, 1954, pp. 5-10.

FESENKOV, V. G.

AID - P-56

Subject : USSR/Astronomy

Card : 1/2

Authors : Fesencov, V. G., Academician, and Rozhkovskiy, D. A.

Title : On the Radiation Energy from the Filaments of Nebulae and on the Narrow Stellar Trails connected with them.

Periodical : Astron. zhur., V. XXXI, 1, 3-14, Ja - F 1954

Abstract : Results of photometric determination of 20 stars in 4 stellar trails in filaments of the gaseous-cloudy nebula in Cygnus between NGC6960 and 6992-5 are given. The stars are assumed to be sub-giants. Radiation and evaluation of space density are estimated. Two photo negatives of the trails, shown on 2 plates, were made with D. D. Maksutov's meniscus telescope (opening 500 mm, light power 2.4) installed in 1950 in the Gornaya Astronomical Observatory. 3 graphs show samples of these stellar trails. The article is based on works by J. Chamberlin, Hynek, and E. R. Mustel'. The bibliography lists 4 references, of which 2 are Russian.

Astron. zhur., V. XXXI, 1, 3-14, Ja - F 1954. AID - P-56  
(additional card)

Card 2/2

Institution : Gornaya Astrophys. Obs. of the Acad. of Sci. Kaz SSR

Submitted : November 4, 1953

Subject : USSR/Astronomy AID P - 372  
Card 1/1 Pub. 8 2/12  
Authors : Fesenkov, V. G., Kazachevskiy, V. M. and Tulenkova, L. N.  
Title : On the Motion of Filaments of Nebulae NGC 6960 and NGC 6992-5 in the Constellation of Cygnus  
Periodical : Astron. zhur., v. 31, 3, 224-230, My-Je 1954  
Abstract : In comparing the photographs of nebulae NGC 6960 and NGC 6992-5, made at intervals of 22 and 50 years respectively, the displacement of individual very clearly distinguishable filaments was established. The velocities are considerable (in tens km. per sec.) and there is a tendency in some parts to spread out. Two photoplates, two sketches, and equations. 4 references of which one is Russian.  
Institution : Academy of Sciences, Kazakstan SSR, Astrophysical Institute  
Submitted : April 3, 1954



FESENKO, V. G.

AID P - 423

Subject : USSR/Astronomy  
Card 1/1 Pub. 8, 2/16  
Author : Fesenko, V. G.  
Title : ~~Luminosity of a Hydrogen Nebula~~  
Luminosity of a Hydrogen Nebula under the Action of  
Many Stars  
Periodical : Astron. zhur., v. 31-4, 312-317, J1-Ag 1954  
Abstract : Determination of density of a mainly hydrogen nebula,  
activated by radiant energy, can be done by determining  
not only the number of ions and free electrons, but also  
the number of neutral atoms. A special formula of ioniza-  
tion is given by the author, which, when applied to the  
fibrous nebulae in Cygnus, permits the determination of  
their significant densities. 1 graph and 7 references.  
Institution : Institute of Astrophysics, Acad. of Sci., Kaz. SSR  
Submitted : May 26, 1954

KURGANOV, V.; FESENKOV, V.G.; ROZHKOVSKIY, D.A.

On V.Kurganov's article "V.G.Fesenkov and D.A.Rozhkovskii's  
research in the development of stars from filaments of gas-dust  
nebulae." Astron.shur. 31 no.6:556-557 N-D '54. (MLRA 8:1)  
(Stars) (Nebulae)

FISENKOV, V.G., akademik.

Vegetation on Mars. Dokl.AN SSSR 94 no.2:197-198 Ja '54.

(MLRA 7:1)

(Mars (Planet))

FESENKOV, V.G.

523.852

1667. THE ORIENTATION IN SPACE OF THE FILAMENTS OF  
CERTAIN GAS-DUST NEBULAE V.G. Fesenkov. In Russian.  
Dokl. Akad. Nauk SSSR, Vol. 14, No. 4, 647-50 (1954).

It is not usually possible to judge the space orientation of these  
filaments, which are of interest to cosmogony, for the region of  
radio-emission lies only a degree or two from that side of the plane  
of the galactic equator. A careful study has been made of the  
filamentous structure of nebula NGC 6922-3 which shows that the  
direction of the filaments makes an angle of about  $75^\circ$  with the  
galactic radius.

C.R.J. Manders

FESENKOV, V.G., akademik.

Visibility of narrow stellar paths connected with filaments of  
gaseous and dust nebulae. Dokl.AN SSSR 95 no.2:233-236 Mr '54.  
(MIRA 7:3)

1. Institut astrofiziki Akademii nauk Kazakhskoy SSR.  
(Stars--Clusters) (Nebulae)

FESENKOV, V. G.

USSR/Astronomy

Card : 1/1

Authors : Fesenkov, B. G., Academician

Title : Density of filaments of gas-dust nebulae

Periodical : Dokl. AN SSSR, 96, Ed. 5, 941 - 943, June 1954

Abstract : A method for determining the density of the filaments of the dust-gaseous nebulae is described. The method consists, basically, of evaluating star radiation and the ionization caused by it of the neighboring interstellar space. Five references.

Institution : ....

Submitted : April 19, 1954

PESENKOV, V. G.

8.5-318

551540-25:5235(57)

pesenkov, V. G. (Academy of Sciences, Moscow), Sikhote-Alin meteorite. (In: Kaiser, T. R. ed., *Meteorites*. London, Pergamon Press, 1955. p. 179-183. 12 figs. (includ. photos), table, 10 refs.) DWB—The 100 tons of meteoritic matter which fell near 114°39' 2E and 46°09' 6N at 1038h (0038Z) on Feb. 12, 1947, provided the best opportunity for scientific study of conditions attending a major meteor fall. The ball was brighter than sun and light and sound phenomena were noted over an area at least 300-400 km in radius. No noticeable seismic effects occurred at Vladivostok, 500 km distant. A dark turbulent trail with strong absorption of short wave radiation was left behind (see fig. 2). Places where specimens and craters were found in Taiga Forest by the 4 expeditions of the Academy of Sciences, are shown on chart of 1X2 mile area. Initial mass of meteorite is estimated at several hundred tons and speed 500-600 m/sec with initial speed 14-15 km/s. (For original report by author, see j-101, Oct. 1950, *MAB*.) Subject Headings: 1. Sikhote-Alin meteorite (1947) 2. Meteor explosions, Sikhote-Alin Region, Asiatic U.S.S.R. 3. Sikhote-Alin Region, Asiatic U.S.S.R.—M.R.



FESENKOV, V. G.

USSR/ Aeronautics - Astronautics

Card 1/1 Pub. 123 - 1/14

Authors : Fesenkov, V. G., Academician

Title : Problems of astronautics

Periodical : Vest. AN Kaz. SSR 1, 3 - 11, Jan 1955

Abstract : The present day problems connected with interplanetary travel, creation of an Earth satellite in space and the control of cosmic space are analyzed. It is pointed out that intensive work is conducted on the utilization of atomic energy for cosmic travel. The success of these works is expected to lead to a realization of all astronautical problems. The probable contributions of various scientific fields (astronomy, mathematics, physics, chemistry, physiology, medicine, etc.) to the future cause of space travel are listed. The state of space travel is presently considered to be at the same level of development as the airplane and aeronautics were one half of a century ago.

Institution: .....

Submitted: .....

FESENKOV, V.G.

Principal scientific achievements of the Institute of  
Astrophysics of the Academy of Sciences of the Kazakh  
S.S.R. Izv. Astrofiz. Inst. AN Kazakh.SSR 1 no.1/2:3-24  
'55.

(MLBA 9:10)

(Kazakhstan--Astrophysics)

FESENKOV, V.G.

Phenomena observable on Jupiter; origin of the dark belts.  
Izv. Astrofiz.Inst. AN Kazakh.SSR 1 no.1/2:239-251 '55.

(MLRA 9:10)

(Jupiter (Planet))

FESENKOV, V. G.

USSR/ Astronomy - Philosophy

Card 1/1 Pub. 123 -1/12

Authors : Fesenkov, V. G., Academician

Title : Materialism and Idealism in Astronomy

Periodical : Vest. AN Kaz. SSR 6/123, 3-14, June 1955

Abstract : The interpretation of various phenomena, which occur in the universe, by scientists of the so-called idealistic school versus the scientists of the materialistic school is discussed.

Institution : .....

Submitted : .....

~~FESENKOV, V.G.~~  
FESENKOV, V.G., akademik

On the problem of micrometeorites. Meteoritika no.12:3-13 '55.  
(Meteorites) (MIRA 8:10)

PESENKOV, V.G.

PESENKOV, V.G., akademik

Observations on the motion of the Sikhote-Alin meteorite in the  
atmosphere. Meteoritika no.12:72-74 '55. (MIRA 8:10)  
(Meteorites)

YESSENKOV, V.G., akademik.

Advances in meteoritics during 1952. Meteoritika no.13:9-14 '55.  
(Meteorites) (MLRA 9:2)

FESENKOV, V.G., akademik.

Chief trends in meteoritic studies. Meteoritika no.13:33-38 '55.  
(Meteorites) (MLRA 9:2)



**FESENKOV, V.G.**

On the theory of diurnal sky brightness in the case of a spherical earth. Astron.zhur. 32 no.3:265-281 My-Je '55. (MIRA 8:8)

1. Astrofizicheskiy institut Akademii nauk Kazakhskoy SSR  
(Solar radiation)

**FESENKOV, V.G.**

Problem of the origin of stars. Astron.zhur.32 no.4:314-325  
Jl-Ag'55. (MLRA 8:10)

1. Institut astrofiziki Akademii nauk Kaz.SSR  
(Stars)

Fesenkov, V.G.

USSR/Physics - Space travel

Card 1/1 Pub. 86 - 2/36

Authors : Fesenkov, V. G., Academician

Title : Problems of astronautics

Periodical : Priroda 44/6, 11 - 18, Jun 1955

Abstract : A review is made of Russian and Soviet scientific papers on the problems of astronautics. The general problem is divided into three phases: taking off from the earth, interplanetary travel, and returning to the earth. These are discussed separately. The possibility of using atomic energy as a source of power for space rockets is also discussed. American accomplishments with space rockets are touched on in the illustrations. Map; illustrations.

Institution: .....

Submitted : .....

USSR/ Geophysics - Sky brightness

Card 1/2

Pub. 22 - 16/51

Authors : Fesenkov, V. G., Academician

Title : The brightness of the day-time, cloudless sky considering the earth as being spherical

Periodical : Dok. AN SSSR 101/5, 845-847, Apr. 11, 1955

Abstract : A derivation is presented of the formula expressing the brightness of the day-time cloudless sky at any point for the spherical earth (previously the earth was considered as a flat body). The subject formula is expressed as follows:

$$\frac{B}{L} = \frac{f(\theta)}{2\pi \int_0^{\theta} f(\phi) \sin \phi d\phi} \cdot \frac{-m \varepsilon \frac{m_z}{P} - P \frac{m}{M} \frac{I}{M_z}}{\frac{M}{\varepsilon} - M_z}$$

Institution : Acad. of Sc., Kaz. SSR, Astrophysical Institute

Submitted : February 11, 1955

Card 2/2

Pub. 22 - 16/51

Periodical : Dok. AN SSSR 101/5, 845-847, Apr. 11, 1955

Abstract : where  $m_z$  and  $m_r$  are masses of the atmosphere at the height  $h$  from the earth at the zenith distance  $z$  when the zenith distance of the sun is  $\gamma$ ; the  $\theta$  is the angular distance of the mass  $m_z$  from the sun, the  $p$  is the coefficient of transparency. One USSR reference (1944). Table.

Institution : Acad. of Sc., Kaz. SSR, Astrophysical Institute

Submitted : February 11, 1955

SEVERNYI, Andrey Borisovich; ~~PESENKOV, V.G.~~, akademik, otvetstvennyy  
redaktor; YMFREMOV, Yu.I., redaktor izdatel'stva; KASHINA, P.S.,  
tekhnicheskiy redaktor

[Solar physics] Fizika solntsa. Moskva, Izd-vo Akademii nauk  
SSSR, 1956. 158 p. (MLRA 10:2)  
(Sun)

OPARIN, Aleksandr Ivanovich; ~~FRANKOV~~, Vasily Grigor'yevich; PEREL', Yu.G.,  
redaktor; POLYAKOVA, T.B., tekhnicheskii redaktor.

[Life in the universe] Zhizn' vo Vselennoi. Moskva, Izd-vo Akademii  
nauk SSSR, 1956. 222 p. (MIRA 9:6)  
(Plurality of worlds)

FESENKOV, V. (Alma-Ata)

"Sur Une Certaine Bande d'Adsorption dans le Spectre du Ciel Diurne,"

Spectral photometric observations made by the Observatory of the Astrophysical Institute, Alma Ata, USSR, confirm the existence of a weak adsorption band at  $\lambda 4360\text{\AA}$  in the spectrum of the night sky. It is supposed that this is produced primarily from floating dust in the high portions of our atmosphere.

A paper presented at the 7th International Astrophysical Colloquium, Liege, July 12-14, 1956

SO: 568946



FESENKOV, V.

"Sur la Composante Atmospherique de la Lumiere Zodiacale," a paper presented at the 7th International Astrophysical Colloquium, Liege, Jul 12-14, 1956.

Photometric observations of the zodiacal light made by expeditions of the Astrophysical Institute at Alma Ata, USSR, point to considerable change in the aspect of this phenomenon depending upon the position of the ecliptic with respect to the horizon.

SO: 568946

FESENKOV, V.G.

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2:3-33 '56. (MIRA 15:9)  
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Velocity Drag force

2-4496

Fesenkov, V. G. Some properties of motion of a gravita-  
ting body in a resisting medium. Astr. Zh. 33: 614-621, 1986. Russian. English summary.

1-4E4c

1-4E3d

The author investigates the motion of a particle in the  
gravitational field of a sphere, having an atmosphere of  
homogeneous density. The drag force is assumed to be  
proportional to the velocity relative to the atmosphere.  
The numerical integration shows that the orbit tends to  
become circular under the influence of the drag. The  
results obtained represent the first approximation to a  
rather difficult problem of the motion of a body in a  
resistant medium.

4E4c  
4E3d

FRSENKOV, V.G., akademik.

Introduction. Izv. Astrofiz. Inst. AN Kazakh. SSR 3 no.4:  
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PESENKO, V. G.

"Main Achievements of the Astrophysics Institute in the Period  
of its Existence (1945-1955)"  
Izvestiya Astrofizicheskogo Instituta, Vol III, No 4, 1956, pp 33-45

Translation M-3,053,054, 4 Jan 57

FESENKOV, V.G.

On the origin of stars. Izv. Astrofiz. Inst. AN Kazakh, SSR  
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PESENKOV, V.G., akademik.

Advances in meteoritics in 1953 and 1954. Meteoritika no.14:5-13 '56.  
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(Meteorites)



FESENKOV, V.G., akademik.

Various aspects of occurrence of cosmic dust. Meteoritika no.14:92-  
100 '56.

(MLRA 10:1)

(Cosmic dust)

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1. Institut astrofiziki AN KazSSR.  
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1.Astrofizicheskiy institut Akademii nauk KazSSR.  
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FESENKOV, V.G.

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1.Astrofizicheskiy institut Akademii nauk KazSSR.  
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*Resnikov, V.G.*  
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The determination of transparency of the atmosphere during the night. V. G. Resnikov (Astrophys. Inst. Acad. Sci. Kazan). *from 2000-13, 600-603, 1958*. The relative intensity of Venus' radiation in 2 wave lengths was measured to det. the coeff. of atm. transparency at night. A method, similar to that of color excess for interstellar absorption, was developed, which should be accurate within 1-2%.  
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FESENKOV, V.G.

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(MLRA 9:12)

(Meteorites) (Solar system)

FESENKOV, V.G.

Seventh international colloquy on "Molecules in cosmic bodies"  
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(Liege--Astrophysics--Congresses)

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Observing the total lunar eclipse of May 24, 1956. Astron. tsir .  
no.172:19 Ag '56. (MIRA 10:1)  
(Eclipses, Lunar--1956)

IDLIS, Grigoriy Moiseyevich, starshiy nauchnyy sotrudnik; ~~PERENKOV, V.G.~~,  
akademik, otvetstvennyy redaktor; ~~PEREL'~~, Yu.G., redaktor  
izdatel'stva; NOVIKOVA, S.G., tekhnicheskii redaktor

[Cosmic matter] Kosmicheskaya materia. Moskva, Izd-vo Akademii  
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nauk KazSSR (for Idlis)  
(Cosmography)

RESENKOV, V. G.

"Development of Astronomy in Kazakhstan," p 247. in Science in Kazakhstan during the Forty Years of the Soviet Regime. Alma-ata, Izd-vo AN Kazakhskoy SSR, 1957. 452p. (ed. Satpayer, K. I.)

This is a collection of articles (20) compiled by 24 authors on various aspects of scientific progress in Soviet Kazakhstan. One third of the articles also deal with the progress made in the main fields of industrial endeavor. The articles on the development of science survey the main contributions made in the respective branches by Kazakh scientists, and enumerate and describe the existing scientific institutes, organizations, and universities. A large number of scientists are mentioned and their fields of interest stated.

FESENKOV, V.G.

*Vasily Grigoryevich*

"On Star Chains and Dark Filaments in Galactic Nebulae," 4 p.  
paper submitted for Third Symposium on Cosmical Gas Dynamics, Cambridge (Mass.),  
24-29 June 1957.

Trans. Available  
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FESENKOV, Y. G.

"Some Considerations about the primeval state of the Earth," a paper presented at the International Symposium on the Origin of Life, Moscow, 19-24 Aug 1957.

FESENKOV, V. G.

7-1-11/12

AUTHOR: Krinov, Ye. L.

TITLE: Chronicle: International Conference on Interplanetary Matter  
(Khronika: Mezhdunarodnaya Konferentsiya po mezoplanetnoy materii)

PERIODICAL: Geokhimiya, 1958, Nr 1, pp. 96-96 (USSR)

ABSTRACT:

The International Congress on Interplanetary Matter took place at Jena, German Democratic Republic from October 7 to October 12, 1957. It was organized by the German Academy of Sciences. About 100 representatives of 11 countries took part in it. The Soviet Union was represented by Ye. L. Krinov, Scientific Secretary of the Committee for Meteorite Science of the AN USSR, by the Scientific Assistant of this committee L. G. Kvasha, and by V. S. Safronov, Scientific Assistant of the Institute for Geophysics of the AN USSR.

The Soviet delegation gave ten of the thirty reports heard there:

V. G. Fesenko, Member of the AN USSR: The Northern Zodiacal Light

V. G. Fesenko, Member of the AN USSR: The Pressure Wave at the Fall of the Tunguska Meteor in 1908

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Chronicle: International Conference on Interplanetary Matter 7-1-11/12

- Ye. L. Krinov: The Mechanism of the Destruction of Meteoric Bodies in the Atmosphere, and Their Original Forms
- L. G. Kvasha: Certain Types of Stone Meteors
- B. Yu. Levin: On the History of the Investigation of the Variation of Meteorite Frequency
- B. Yu. Levin: The Origin of Meteors and Comets
- A. P. Vinogradov, Member of the AN USSR, I. K. Zadorozhnyy and K. P. Florenskiy: The Contents of Inert Gases in the Sikhote-Alin Iron Meteor (published in GC, 1957, no. 6)
- N. N. Pariyskiy and L. M. Gindilis: Investigation of the Luminiscence of the Green Band 5577 in the Night Sky in the Counter-Glow Region  
(Issledovaniye svecheniya zelenoy linii 5577 nochnogo neba v oblasti protivosiyanii)
- I. S. Shklovskiy: The State of Ionization of Interplanetary Gas and Its Significance for Certain Geophysical Problems

The conference decided to publish all reports in special editions of the following periodicals:

Astronomical reports in: "Die Sterne";

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Chronicle: International Conference on Interplanetary Matter 7-1-11/12

Reports on the material consistency of meteorites in:  
"Chemie der Erde".

AVAILABLE: Library of Congress

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YESSENKOV, V.G., akademik.

Observation of Mars during favorable opposition in 1956. Vest.  
AN Kazakh.SSR 13 no.1(142);22-31 Ja '57. (MLRA 10:4)  
(Mars (Planet)--Opposition,1956)



AUTHOR: Fesenko, V. G.

TITLE: The early thermal history of the Earth. (K voprosy o ranney termicheskoy istorii zemli).

PERIODICAL: Astronomicheskii Zhurnal, 1957, Vol.34, No.1, pp.105-119.

ABSTRACT: An attempt is made to collect together known geological and astronomical facts relating to the early thermal history of the Earth.

The continents consist, in the main, of granite, and the origin of the latter must be considered first. It appears that the only possible explanation is that the granite crystallised out of hot magma. This should take place at temperatures in excess of 1000°. The problem is considered in refs. (2 - 4).

The origin of the continents must also be considered in connection with the general problem of the formation of the Earth as a whole. The problem is considered in refs. (3 - 10) but no unique conclusion has been reached.

The problem of the evolution of the Earth's atmosphere and the formation of oceanic basins must also be considered in connection with the earliest thermal history of the Earth. The atmosphere has a secondary origin. As is known oxygen was originally produced by green plants and by plankton in the oceans. Nitrogen originated partly from plants but mainly in the interior of the Earth. Of the original atmosphere only an insignificant admixture of inert gases

The water of the oceans is supposed to have originated in the interior of the Earth as the latter was cooling down. Thus, for example, during a volcanic eruption a great amount

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been shown that magma is capable of containing up to 10% of water vapour (by wt.) under a suitably high pressure. However, a similar process would be possible with an originally cool Earth which was gradually warmed up through radioactive disintegrations. Thus, the existence of the oceans is a

The early thermal history of the Earth. (Cont.)

strong argument in support of the hypothesis of an originally hot surface of our planet. (12 - 14).

Deep furrows, valleys, and mountains should also have a direct relation to the thermal history of the Earth. They exist at the bottom of the oceans, in addition to the great canyons. These canyons can be assumed to have been caused by gigantic underwater currents which were caused by the collapse of continental masses in the different periods in the Earth's history. E.G. at the end of the glacial periods, during a rapid melting of ice, or during earthquakes. The effect of great convective currents under the Earth's crust is considered by Menard (19). (See also refs. 15-18).

The distribution of radioactive elements is of interest from the point of view of the evolution of the globe. The main radioactive elements (Uranium and Thorium) are concentrated in the upper layers of the Earth. Goldschmidt (21) considers that the atoms of uranium and thorium are too bulky to enter into silicate lattices during the process of crystallisation. Thus, as the internal parts of the Earth began to cool down, the atoms of uranium and thorium were "squeezed out" in the outward direction. This would explain

- The early thermal history of the Earth. (Cont.)
- produced when a dispersed medium contracts to a smaller volume (potential energy transformed into kinetic energy);
- (ii) Radioactive disintegration; (iii) Transformation of chemical energy into heat (refs. 33-34); (iv) The differentiation of the terrestrial matter according to its density may have some effect on the thermal regime of the Globe.

One can easily show that, even if the Earth was formed in a single gravitational condensation, enough energy must have been produced to bring it into a molten state. In such an incandescent mass convection currents are inevitably produced and lead to a sufficiently rapid cooling. As was shown above, radioactive elements are brought to the surface during this process, and so their influence on the thermal state of the Earth become minimal.

The origin of the Earth is considered to be not in a quasi-meteoritic dust-cloud captured by the Sun from a hypothetical dust nebula, but in a medium consisting of both gas and dust, which surrounded the original Sun, and has a chemical structure identical with it (refs.35-41).

Spitzer's theory of the differences between Mars and the Earth (42) are summarised. It is thought that the absence of water on Mars is probably a result of volcanic eruptions which occurred after the complete cooling down of this planet. 43 references, 20 of which are Russian.

Recd. Dec. 7, 1956.

FESENKOV, V.G.

PHASE I BOOK EXPLOITATION

SOV/3823  
SOV/20-M-7

Akademiya nauk Kazakhskoy SSR. Astrofizicheskiy institut

Izvestiya, tom 7 (News of the Astrophysics Institute, Academy of Sciences, Kazakhskaya SSR, Vol. 7) Alma-Ata, 1958. 110 p. Errata slip inserted. 900 copies printed.

Ed.: F.Ya. Osadchiy; Tech. Ed.: Z.P. Rorokina; Editorial Board: G.M. Idlis, M.G. Karimov, Z.V. Karyagina (Secretary), D.A. Rozhkovskiy, and V.G. Fesenkov (Resp. Ed.).

PURPOSE: The book is intended for astronomers and astrophysicists.

COVERAGE: This is a collection of 12 articles. In the first four articles V.G. Fesenkov deals with the formation of stars and planets, describes star chains and dark filaments in the region of galactic nebulae, and reports on the observation of Mars with an 8" refractor during the opposition of 1956, and on photometrical observation of the northern zodiacal light in July 1957 using a visual binocular of the author's design. The remaining articles, written by different authors, deal mainly with problems of spectroscopy such as the scattering of light in the atmosphere in the nearest infrared region of the

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Fesenkov, V.G. Northern zodiacal light at the beginning of July 1957

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News of the Astrophysics Institute (Cont.)

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ORLOV, Sergey Vladimirovich; ~~KISENKOV, V.G.~~ akademik, otvetstvennyy red.;  
NOVIKOVA, Ye.M., red. izd-va; SAMSONENKO, L.V., red. izd-va.

[Nature of comets] O prirode komet. Moskva, Izd-vo Akad. nauk SSSR,  
1958. 187 p. (MIRA 11:7)

(Comets)

Fesenkov V.G.

1 PHASE I BOOK EXPLOITATION

SOV/3888

SOV/37-M-15

Akademiya nauk SSSR. Komitet po meteoritam

Meteoritika; sbornik statey, vyp. 15 (Meteoritics; Collection of Articles, No 15) Moscow, 1958. 193 p. 1,300 copies printed. Errata slipinserted in No 16 for No 15.

Ed.: V.G. Fesenkov, Academician; Deputy Resp. Ed.: Ye.L. Krinov; Ed. of Publishing House: I.Ye. Rakhlin; Tech. Ed.: A.P. Guseva.

PURPOSE: This publication is intended for astronomers, geophysicists, astrophysicists, and other scientific personnel concerned with meteoritic phenomena.

COVERAGE: This is a collection of 12 articles on problems in meteoritics. Four articles describe the characteristics of four different meteorites which fell on the USSR, and the conditions and phenomena accompanying their flight and fall. Four articles discuss the chemical and physical properties of meteorites and

Card 1/4

Meteoritics; Collection (Cont.)

SOV/3888

the analytical techniques used in their study. Individual articles discuss American and international organizations for the study of meteorites. A catalog of Soviet and non-Soviet meteorites kept in the Department of Geology, Leningrad State University is presented. References accompany individual articles.

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FESENKOV, V.G.

p. 2, 5

PHASE I BOOK EXPLOITATION

SOV/3887

SOV/37-M-16

Academiya nauk SSSR. Komitet po meteoritam

Meteoritika; sbornik statey, vyp. 16 (Meteoritics; Collection of Articles, No. 16)  
Moscow, 1958. 209 p. Errata slip inserted. Errata slip inserted for No. 15.  
1,300 copies printed.

Ed.: V.G.Fesenkov, Academician; Deputy Resp. Ed.: Ye.L.Krinov; Ed. of Publish-  
ing House: L.K. Nikolayeva; Tech. Ed.: T.V. Polyakova.

PURPOSE: This publication is intended for astronomers, geophysicists, astro-  
physicists, and other specialists concerned with meteoritic phenomena.

COVERAGE: This collection contains 4 articles, a bibliographic index of material on  
meteorites, and 23 abstracts and reports of papers presented at the Seventh Con-  
ference on Meteorites organized by the Committee on Meteorites, Academy of  
Sciences USSR, held in Moscow, November 14-16, 1956. The reports and articles  
deal with the origin and composition of meteorites and their relation to other  
elements in the solar system, the properties of stone meteorites, meteorite

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craters on the earth and the moon, and specific meteorites such as those which fell in the Ukraine and in Mongolia. Several reports are devoted to the Sikhote-Alin' meteoric shower, its trajectory, chemical and mineral composition, structure, and the circumstances attending its fall. A brief note describes the activities of the Center for Meteorite Study, Division of Astronomy, Institute of Physics, Bulgarian Academy of Sciences. No personalities are mentioned.

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SOV/169-59-5-5380

Translation from: Referativnyy zhurnal, Geofizika, 1959, Nr 5, pp 142 - 143  
(USSR)

AUTHOR: Fesenkov, V.G.

TITLE: Expedition of AS USSR Into the Egyptian Region of OAR for  
Observing the Zodiacal Light ✓

PERIODICAL: Mezhdunar. geofiz. god. Inform. byul., 1958, Nr 5, pp 82 - 85

ABSTRACT: Preliminary results of an expedition of AS USSR into the  
Egyptian region of OAR for observing the Zodiacal light according  
to the IGY program are described. The expedition was working in  
October - November 1957 near Assuan. In addition to 5 Soviet  
scientists, 2 scientists of OAR participated in the expedition  
work. Photoelectric and visual observations of the Zodiacal  
light and of the daytime sky were carried out. The observa-  
tions of the Zodiacal light made it possible to obtain iso-  
phots of the evening and morning cones of the Zodiacal light,  
to measure the degree of polarization of the Zodiacal light for  
various elongations of the Sun, to determine the possible

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SOV/169-59-5-5380

Expedition of AS USSR Into the Egyptian Region of OAR for Observing the  
Zodiacal Light

intensification of emission lines of the night sky with the Zodiacal light. The daytime observations served to study the optical characteristics of the atmosphere, to determine the coefficient of transparency, the degree of polarization and the indicatrix of dispersion of the day sky. A preliminary processing of the obtained material enables one to draw the conclusion that the Zodiacal light is almost entirely due to the scattering of solar radiation by dust particles in the interplanetary space. Electrons are not likely to have any essential effect in the origination of the Zodiacal light. The daytime observations have shown that the optical characteristics of the atmosphere are very steady in Egypt.

N.B. Divari

Card 2/2

SOV/30-58-6-16/45

AUTHOR: Fesenkov, V. G., Member, Academy of Sciences, USSR

TITLE: Investigations on the Zodiacal Light (Issledovaniya zodiakal'nogo sveta) Provisional Results Obtained by the Observations of the Soviet Expedition in Egypt (Predvaritel'nyye rezultaty nablyudeniy sovetskoy ekspeditsii v Yegipte)

PERIODICAL: Vestnik Akademii nauk SSSR, 1958, Nr 6, pp. 89 - 91 (USSR)

ABSTRACT: In September 1957, an expedition of the AS USSR was sent to Egypt in order to carry out investigations of the nature of the zodiacal light, as well as on the properties of the terrestrial atmosphere according to the work program of the International Geophysical Year. The appearance of the zodiacal light depends on the inclination of the ecliptic with respect to the horizon. Egypt, where in autumn, before sunrise, the zodiacal light can be seen almost vertically to the horizon under the Tropic of Cancer, - whereas completely different outlines can be seen in the shape of a largely inclined branch in the evening of the same days, in the West - is especially fit for these observations. The Soviet-Expedition

Card 1/3

SOV/30-58-6-16/45

Investigations on the Zodiacal Light. Provisional Results Obtained by the  
Observations of the Soviet Expedition in Egypt

has built and tested special equipment for this purpose. The expedition consisted of 5 Soviet experts and 2 Egyptian specialists: the astrophysicist of the observatory Kheluan Adli Asaad, as well as the physicist Emar Sayed from the Gellipolis University (Cairo). The equipment of the expedition was built up in the Libyan Desert, approximately 25 km south of Assuan. Altogether 30 000 measurements were carried out from October 18 to November 24. It was found that the matutinal branch of the zodiacal light corresponds comparatively exactly to its real appearance, whereas its evening branch is considerably distorted by the influence of the zodiacal twilight. Based upon the results obtained by the expedition, it may be asserted that the zodiacal light is almost exclusively produced by dust particles which penetrate continuously into the interplanetary space as a result of the disintegration of asteroids. Hitherto it has been assumed that a highly polarized dull light cannot be produced by cosmic dust, whereas the observations made by Ye. V. Pyaskovskaya-Fesenkova in the Libyan Desert have shown that in case of a solar angle of  $90^{\circ}$ , the degree of polarization

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